

9th International Congress on 3D Printing (Additive Manufacturing) Technologies And Digital Industry 2025

18 September 2025		
10:00-12:00	Session Chairman: Pinar Demircioglu	Salon1
10:00-10:30	Protocol Speeches	Prof.Dr.ing. Daniela Popescu
10:30-11:15	Agentic AI and the Future of Autonomous Systems	Prof.Dr. Pushan Kumar Dutta
11:15-12:00	From Manuals to Avatars: Transforming Industrial Training with Scalable AI	Dr. Yasin Hamarat
Coordinator		

18 September 2025		
14:00-16:10	Session Chairman: Ismail Bogrekci	Salon1
14.00-14.20	Blockchain-Integrated Security in Cloud Computing: Challenges, Solutions, and Future Trends for IoT Applications	Shaik Khaja Mohiddin, Shaik Sharmila, Pushan Kumar Dutta
14.20-14.40	Advancing Human-Centered E-Governance in Society 5.0 through Responsible Integration of AI and Multimedia Technologies	Ritu Raj Choudhary, Udit Mamodiya, Prerna Srivastava, Pushan Kumar Dutta
14.40-15.00	Mechatronics Workshop in Virtual Reality: A Digital Learning Platform	Logesh Santhosh, Sri Krishnasamy Sathya Narayanan, Sheik Masthan S A R, Rajalakshmi Murugesan, Pushan Kumar Dutta
15.00-15.20	Data-Driven Spintronics: Integrating Micromagnetic Simulation, Machine Learning, and Bayesian Optimization	Kalyan Chatterjee, Sayanti Banerjee, Pushan Kumar Dutta
15.20-15.40	Teleoperated VR-Controlled Robotic Housekeeping	Alan George Shibu, Rolls V R, Dino Davis, Safa Nasrin S A, Athira P Preman, Manikandan N R, Karthik C, Jain Varghese, PK Dutta
15:40-16:00	Artificial Intelligence-Driven Filament Drying Processes in Fused Deposition Modelling Additive Manufacturing	Arda Pazarcikci, Sema Cayir, Koray Ozsoy, Bekir Aksoy
16.00-16.30	Reshaping the future of manufacturing with AI	Prof.Dr. Fernando Rodrigues
Coordinator		

18 September 2025		
16:30-18:50	Session Chairman: Gülsah Karakaya	Salon1
16.30-16.50	Design of a 3D-Printed and Renewable Energy-Powered Buoy for Ocean Data and Analysis	Semih Yilmaz, Yasar Menet, Kerim Deniz Kaya, Kubilay Bayramoglu
16.50-17.10	In-Process Vertical Reinforcement of 3D Printed Concrete Structures	Syedmansour Bidoki, Hasan Haroglu, Adil Kahwash Al-Tamimi
17.10-17.30	Enhancing Additive Manufacturing Security: A Novel Approach Using Zero Trust, Blockchain, and AI-Powered Watermarking	Mary Shreya, Chitra R
17.30-17.50	Marine Plastic Waste: Environmental Impacts and Reusability in FDM 3D Printer	Gamze Akpınar, Semih Yilmaz, Kerim Efe Ertunc
17.50-18.10	Fabrication of Chewable 3D Printlets of a Novel HPO Agent: A Comprehensive Study from Chemical Synthesis to Formulation Development	Gülsah Karakaya, Hazal Ezgi Gultekin, Beyza Duzleyen, Mutlu Aytemir
18:10-18:30	Building Patient Digital Twins: Data Foundations and Integration Pathways	Abhik Patra, Pushan Kumar Dutta, Pronaya Bhattacharya, Reza Moezzi
18:30-18:50	Design and Development of Fixed-Wing UAV for Predictive Maintenance and Maintainability Approach	Ismail Bogrekci, Pinar Demircioglu, Saim Taha Karatas
Coordinator		

18 September 2025		
14.00-16.00	Session Chairman: Mustafa Aydin	Salon2
14.00-14.20	Production and Use of 3D Vulva Simulator	Berna Şenel Eraslan, Fahrettin Kesmezacar, Duygu Tuncman Kayaokay, Ozge Coskun Saglam, Davut Yerlikaya
14.20-14.40	Customized 3D-Printed Pen Grips for Rheumatoid Arthritis Patients	Duygu Tuncman Kayaokay, Fahrettin Fatih Kesmezacar, Hamza Kurtkapan, Ozge Coskun Saglam, Muhittin Onur Yaman, Davut Yerlikaya
14.40-15.00	Customized 3D-Printed Keychains and Bottle Openers for Rheumatoid Arthritis Patients	Fahrettin Fatih Kesmezacar, Duygu Tuncman Kayaokay, Hamza Kurtkapan, Ozge Coskun Saglam, Muhittin Onur Yaman, Davut Yerlikaya
15:00-15:20	Taguchi-Based Analysis of FDM Parameters on PLA Hardness	Mucahit Osman Turkan, Arzum Naz Dogan, Mustafa Oncul, Melih Savran
15:20-15:40	3D-Printed Bolus Alternatives in Radiotherapy: A Dosimetric Study	Songul Cavdar Karacam, Duygu Tuncman Kayaokay, Elif Aslan, Deniz Azaklioglu, Servet Ipek, Meltem Dagdelen, Didem Colpan Oksuz
15:40-16:00	Design and characterization of faucet producible with 3D metal printer	Ozum Karabacaklar Bayramoglu, Mustafa Aydin
Coordinator		

18 September 2025		
16:30-18:50	Session Chairman: Omer Eyercioglu	Salon2
16.30-16.50	Foundry 4.0: Recasting Industry 4.0 for Metal Casting	Dhaval Anadkat, Amit Sata, PK Dutta
16.50-17.10	Blending Blockchain with Manufacturing for Developing Smart and Secured Process: A Review, Framework and Implementation	Divya Mobarsa, Amit Sata, Minal Shukla, PK Dutta
17.10-17.30	RegTech: The Role of AI for Regulatory Compliance	Prema Srivastava, Udit Mamodiya, Kritika Tekwani, Ritu Raj Choudhary, Pushan Kumar Dutta
17.30-17.50	Mathematical Description of The Process of Drying Grain by The Convective Method	Parakhat Matyakubova
17.50-18.10	Problems of Technical Regulation in The Age of Information Technologies	Parakhat Matyakubova
18:10-18:30	Assessment of ChatGPT-5 and ChatGPT-4o Performance on Orthodontics Multiple-Choice Questions	Sercan Taskin, Mine Gecgelen Cesur, Serra Aksoy, Pinar Demircioglu, Ismail Bogrekci
18:30-18:50	Swin Transformers for Real-Time Visual Defect Detection in Industrial Metal Components	Pinar Demircioglu, Ismail Bogrekci, Mehmet Deniz
Coordinator		

18 September 2025		
14.00-16.00	Session Chairman: Stelian Brad	Salon3
14.00-14.20	Variability As an Object of The Management Strategy of The Active Systems Group in The Safety System	Nataliia Punchenko, Viktor Strelbitskyi
14.20-14.40	Investigation of Temperature and Viscosity Distribution of PEEK Filament in the Heat Block of FDM Printers Using Finite Element Method	Nour Eddin Bulbul, Bahattin Kanber
14.40-15.00	Cost-Effective Cable Assembly Fixtures in Low-Volume Automotive Production Using 3D Printing	Bogdan Balog, Stelian Brad, Diana Ticudean, Vasile-Dragoş Bartoş, Ionuț Adrian Chiş
15.00-15.20	Personalized 3D-Printed Moulds: An Innovative Approach for Advanced Composite Product Fabrication	Alexandru-Viorel Coşa, Răzvan Mutuleasa, Dan-Andrei Şerban
15.20-15.40	Revitalizing Additive Manufacturing through AI Driven Design and Inventive Strategies for Next Generation 3D Printing	Stelian Brad, Diana Ticudean, Bogdan Balog, Vasile-Dragoş Bartoş, Anca Stan
15.40-16:00	Role of Structural Topology in Corrosion Resistance of Hydroxyapatite-Chitosan Coated Titanium Lattice Implants	Doruk Gurkan, Binnur Sagbas
Coordinator		

18 September 2025		
16.30-18:50	Session Chairman: Hakan Maden	Salon 3
16.30-16.50	Green Transformation and Climate-Friendly Production in the Steel Industry: A Case Study on the Awareness Levels of Turkish Enterprises	Neslihan Kose, Filiz Ersoz
16.50-17.10	Investigation of the Use of PPS Material as an Alternative Raw Material in the Production of Inner Bodies for Water Fittings	Burak Beyazit Uysal
17.10-17.30	Design of a Dual-Material Head Phantom for In-Vivo OSLD Dosimetry	Deniz Kisinma Azaklioglu, Nural Pastaci Ozsobaci, Songul Cavdar Karacam
17.30-17.50	Predicting Traffic Accident Risk Using Machine Learning: A Comparative Study of Ensemble and Classical Models	Taner Ersoz
17.50-18.10	Permission-Based Machine Learning Model for Android Malware Detection	Muhammed Tenlik, Filiz Ersoz
18:10-18:30	Recycling of Agricultural Waste for Wound Healing: Effect of Bioactive Compounds Extracted from Plant on 3D-Printed Polycaprolactone-Based Dressings	Sebahat Ozdemir, Esranur Tan, Hayrunnisa Ozer, Busra Mutlu, Nadide Seyhun, Fatma Demirci, Rasim Alper Oral, Seyma Duman
18:30-18:50	Experimental Assessment of The Physical and Mechanical Characteristics of Compost	Pinar Demircioglu, Ismail Bogrekci, E. Orcun Kozaka, Anil Aslan
Coordinator		

19 September 2025		
10:00-12:00	Session Chairman: Berat Baris Buldum	Salon1
10:00-10:20	The Impact of Artificial Intelligence on Additive Manufacturing in Mechanical Engineering	Berat Baris Buldum, Oguzhan Kosali
10:20-10:40	Nanoparticle Size Materials Used in 3D Printing	Berat Baris Buldum, Duru Meskan
10:40-11:00	Temperature Optimization in Extruding 3D Printing Filament Obtained from Recycled PET Bottles	Kintsch Raul-Sebastian, Popa Cosmin-Florin, Cosa Alexandru-Viorel
11:00-11:20	A Comparative Analysis of Advanced Vision-Based Methods for Real-Time Defect Detection in Large-Scale Additive Manufacturing	Omer Eyercioglu, Sinan Keskin
11:20-12:40	Enhancement of Surface Quality of 316l Stainless Steel Parts Produced by Direct Laser Metal Sintering (DLMS) Using Abrasive Flow Machining (AFM) Process	Omer Eyercioglu, Mehmet Ali Akeloglu, Cenk Kilicaslan
11:40-12:00	Immersive VR-Enabled 3D Printing Simulator for Technical Education and Digital Skill Development in Industry 4.0	Indra Kishor, Udit Mamodiya, Pushan Kumar Dutta
Coordinator		

19 September 2025		
14:00-15:50	Session Chairman: Mihai Dragomir	Salon1
14.00-14.30	Practical Applications of 3D Printing for Strengthening the Resilience and Security of Socio-Cyber-Physical Systems	Prof.Dr. Stanislav Milevskyi
14.30-14.50	Optimization of Training Speed in Machine Learning Using Distributed Parallel Systems	Elviz Ismayilov, Narmin Mammadova
14.50-15.10	A Fuzzy Logic Approach to Big Data Analysis	Bakhshali Bakhtiyarov, Aynur Jabiyeva, Maya Karimova
15.10-15.30	Device for Determining the Viscosity of Flowing Liquids in Small Diameter Pipes	Parakhat Matyakubova, Jamshidbek Shamuratov
15.30-15.50	Operational Challenges in the Digital and Sustainable Industry	Diana Dragomir, Mirela Simijdean, Elena Bianca Negomireanu, Mihai Dragomir
Coordinator		

19 September 2025		
10:00-12:00	Session Chairman: Diana Dragomir	Salon2
10:00-10:20	Hybrid Rendering using Rasterization and Ray Tracing: An Adaptive Ray Budget Allocation Approach for Real-Time and Photorealistic Graphics	Jyotishman Das, Anirban Mitra, Subrata Paul, Yousef Farhaoui, Pushan Kumar Dutta
10:20-10:40	Neural Network Applications of Behaviour Analysis for Marketing Optimization	Purna Srivastava, Udit Mamodiya, Kritika Tekwani, Ritu Raj Choudhary, Pushan Kumar Dutta
10:40-11:00	Determining The Color of The Object's Surface by Spectrophotometric Method	Lala Bekirova, Bunyatova Elvira
11:00-11:20	Parameter Identification of PV Panels Through Metaheuristic Algorithms: A Comparative Study	Mustafa Asker, Oguz Emrah Turgut, Hadi Genceli, Mustafa Turhan Coban
11:20-11:40	Edge Computing-Based Offline Turkish Voice Command Recognition for Smart Home Automation	Dilara Guven, Eren Atli, Ahmet Cagdas Seckin, Fatih Soygazi, Yakut Ozcan
11:40-12:00	Intelligent Monitoring System for Regulating the Movement and Speed of Railway Transport Vehicles	Kamran Aliyev, Lala Bekirova, Aladdin Bayramov
Coordinator		

19 September 2025		
14:00-15:40	Session Chairman: Tugba Erdil Dincel	Salon2
14.00-14.20	Effects of Filler Wires on Mechanical and Structural Properties of AISI H13 (1.2344) Hot Work Tool Steel Welding	Ilke Ciftci, Serap Celen
14.20-14.40	AI-Driven Solar Energy Optimization for Autonomous 3D Printing Units in Smart Manufacturing Ecosystems	Indra Kishor, Udit Mamodiya, Pushan Kumar Dutta
14.40-15.00	Sustainable 3D Printing Using Recycled Polymers and AI-Based Process Parameter Optimization for Smart Manufacturing	Indra Kishor, Udit Mamodiya, Pushan Kumar Dutta
15.00-15.20	The Role of Sentiment Analysis (SA) and Opinion Mining (OM): Levels, Techniques, Tools and Application Perspectives	Sushree Bibhuprada B. Priyadarshini, Sucheta Panda, Pushan Kumar Dutta, Fernando Ortiz-Rodriguez
15:20-15:40	Understanding The Usage of Constitution Diagrams for Wire Arc Additive Manufacturing of Steels	Serap Celen
Coordinator		

19 September 2025		
10:00-12:00	Session Chairman: Diana Ilea	Salon 3
10:00-10:20	Magnetic Performance of 3D-Printed Toroidal Inductors Based on PLA/ZnNiFe Composites	Kutay Cava, Oguzhan Baser, Mustafa Aslan
10:20-10:40	Composite Filament Production and Its Performance on Pull-Out Test of The Vertebral Bone Mimic	Huseyin Ipek, Kutay Cava, Hatice Kubra Yerli, Mustafa Aslan
10:40-11:00	Sustainable Design and Manufacturing of Plastic Gears	Marah A. Elsiedy, Hesham A. Hegazi
11:00-11:20	Tolerances Prediction of 3D Printed Machine Parts for Assembly	Omar H. Eldessouki, Marah A. Elsiedy, Hesham A. Hegazi
11:20-12:40	Matlab and Simscape Framework for 3D Printer Hotend Thermal Management with Conceptual Fuzzy Logic Heater and Pid Fan Control	Rahim Mammadzada
11:40-12:00	Assessing the Structural Performance of Laminated Glass with Mixed Boundary Conditions for Failure Mitigation	Ebru Dural, M. Zulfu Asik, Gulmira Acigulova, Gülnara Karadeniz, Deniz Can Elci
12:00-12:20	Insights into Road Digital Twins for Next-Generation Intelligent Mobility	Gozde Basak Ozturk, Soheila Kookalani, Ioannis Brilakis
Coordinator		

19 September 2025		
14:00-15:40	Session Chairman: Koray Ozsoy	Salon 3
14.00-14.20	Optimization of Femoral Shaft Fracture Fixation Design with a DFX Approach: A Biomechanical and Manufacturing-Oriented Evaluation	Erhan Duzgun, Kadir Gok, Arif Gok
14.20-14.40	Preserving The Identity of Antalya's Ancient Cities with Digitalization and 3D Printing	Nur Uyanik Cirkin, Kerim Cetinkaya, Tolga Palandiz, Tugba Erdil Dincel, Derya Duzgun, Aysenur Karatas, Sema Kirici
14.40-15.00	Experimental Analysis of Additive Manufacturing Process Parameters on the Hardness of PLA-Wood Biocomposites	Mucahit Osman Turkan, Mustafa Oncul, Melih Savran
15.00-15.20	Development of a New Apparatus for Cleaning Pet Fur Without Shedding	Hakan Maden, Bilal Ozsarikaya
15:20-15:40	Investigation of The Effect of Bonding of Parts Produced from ABS Granular Material with ABS Slurry and Glass Fiber Reinforced Polyester on The Tensile Strength	Ahmet Kobeloglu, Kerim Cetinkaya, Suat Altun, Hatice Evlen
Coordinator		